

peripheric coronal intestine is only connected openly with the axial principal intestine at four points, viz., at the four perradial gastral openings (*go*).

The remarkable, enormously large circular sinus, or coronal sinus ("sinus coronaris," or "canalis coronaris,") *cs*; Pl. XX. fig. 8, *cs*; Pl. XXI. figs. 12-18, *cs*) is that part of the gastrovascular system which specially distinguishes the Peromedusæ from all other Medusæ, and which does not recur in the same form and to the same extent in any other group of Medusæ. It forms a colossal annular pouch which is placed more or less subvertically, and in *Periphylla mirabilis* is 30 mm. high, so that it fills the half of the whole height of the umbrella. In the circular sinus we distinguish an upper or proximal and a lower or distal margin, and an inner or axial and an outer or abaxial wall. The upper margin and the outer wall of the circular sinus are without any opening; on the other hand, it communicates at the lower margin by sixteen horizontal clefts, with the sixteen coronal pouches, and at the inner wall by the four vertical gastral openings with the central stomach. The lower or distal margin (fig. 15, *cs*) coincides with the proximal margin of the coronal muscle (*mc*), and has, consequently, sixteen subradial projecting corners (Pl. XIX. fig. 6). The aboral or proximal margin (fig. 15, *cs*), is a simple circular ring of the subumbrella, which coincides with the plane of the pylorus; the hollow space of the coronal sinus is here completely closed, and does not communicate with the surrounding circular pylorus; the proximal margin of the circular sinus (fig. 15, *cs*) is completely separated from the pyloric opening (*gy*) by the four interradial funnel cavities (*ii*) (which touch here), and only touches the pyloric opening externally in the four perradial pyloric corners (*gy*₄). The external, umbral, or abaxial wall is formed by the smooth concave inner surface of the gelatinous umbrella, and is covered by dark pigment, which is deposited in the form of black-brown balls in the endoderm cells of the umbral wall. The inner, subumbral or axial wall of the circular sinus is formed by the subumbrella, which here assumes very complicated conditions in consequence of the strong development of the four funnel cavities. Considered more closely, this axial wall is divided into an upper broader, and a lower narrower section, which is bounded by the subumbral palatine ring or the insertion of the four perradial palatine nodes (*gk*) at the subumbrella. The upper or proximal section of the axial wall, above the palatine nodes, is pierced in its entire length by the four perradial gastral openings, these important clefts already described, by which the hollow space of the central stomach opens into the coronal sinus (*go*). The lower or distal section of the axial wall, on the contrary, is perfectly simple, without openings; the deltoid muscles (*md*) lie on its subumbral surface. Moreover, the four pair of genitalia (fig. 20, *sm*) lie in the four quadrants of the axial wall of the coronal sinus, which are separated by the four gastral ostia. The colossal hollow space of the coronal sinus forms a powerful closed pouch; apart from the four septal nodes which I shall next describe, it is perfectly simple, and, moreover, so wide that I could easily introduce three of my fingers, and so realise